

# LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

## Volume 5 | Technical Appendices

CFA13 | Calvert, Steeple Claydon, Twyford and Chetwode  
**Baseline (SV-002-013)**  
Sound, noise and vibration

November 2013

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Department  
for Transport

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# 1 Introduction

## 1.1 Structure of the sound, noise and vibration appendices

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).
- 1.1.2 For the Calvert, Steeple Claydon, Twyford and Chetwode area, the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-013) (this appendix);
  - construction sound, noise and vibration (Volume 5: Appendix SV-003-013); and
  - operational sound, noise and vibration (Volume 5: Appendix SV-004-013).
- 1.1.3 Maps referred to within this appendix are contained in the Volume 5, Sound, Noise and Vibration Map Book.
- 1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels

## 1.2 Existing acoustic environment

- 1.2.1 The baseline sound environment for this area is generally typical of a rural area, with some variation due to local sound sources.
- 1.2.2 The area contains a number of small villages such as Twyford and Calvert in addition to isolated residential dwellings and farms.
- 1.2.3 In Twyford the sound environment generally comprises natural sounds. Occasional light aircraft fly overhead and there are intermittent sounds from local road traffic and community activities. Daytime sound levels in Twyford are typically around 45 to 50dB<sup>1</sup>. Night-time sound levels are typically between around 5 to 10 dB<sup>2</sup> lower.
- 1.2.4 The Calvert landfill site is situated to the south of the village and makes use of the Bicester to Bletchley rail line to carry container trains to and from the site each day. The sounds of activity at the land fill and on the rail line are intermittently audible at properties around the perimeter of Calvert closest to these sources, where daytime sound levels are typically around 45dB.
- 1.2.5 In the Calvert area, local road traffic is an intermittently dominant sound source and, at the north-eastern edge of the settlement in the vicinity of School Hill Road, sound from the existing railways may also be heard occasionally. Natural sounds also

<sup>1</sup> Quoted dB values at residential areas refer to the free-field 16 hour daytime (07:00 to 23:00) equivalent continuous sound pressure level,  $L_{pAeq,16hr}$ .

<sup>2</sup> Night-time sound levels refer to the free-field 8 hour night-time (23:00 to 07:00) equivalent continuous sound pressure level,  $L_{pAeq,8hr}$ .

contribute to the soundscape. Daytime sound levels in locations in the north of Calvert, close to School Hill Road, are typically between around 56 to 63dB. In locations further from School Hill Road, sound levels are lower. Night-time sound levels in Calvert vary considerably depend upon the proximity to local sound sources and range typically from approximately 35 to 55dB. The operational land fill site is a noticeable source at times on the south side of Calvert Green.

- 1.2.6 In the area around Chetwode, there are several isolated working farms and residential properties. At these properties occasional local road traffic is audible, with natural sounds otherwise prevailing. The local sound environment also includes occasional aircraft over flights. Daytime sound levels are approximately 40 to 50dB at the more isolated settlements. In some areas, very few man-made noises are audible and natural sources are dominant. Sound from agricultural activity also contributes in some locations.

## 2 Scope, assumptions and limitations

### 2.1 Sound and vibration sensitive receptors

2.1.1 Within the Calvert, Steeple Claydon, Twyford and Chetwode area, 101 assessment locations have been defined to represent all identified sound and vibration sensitive receptors within the spatial scope. The assessment locations are shown on the detailed maps in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book). Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities;
- places of worship; and
- healthcare facilities.

### 2.2 Local engagement

2.2.1 Discussions have been held with representatives of Aylesbury Vale District Council regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment location and baseline sound levels at these assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this document.

2.2.3 Representatives of Aylesbury Vale District Council have also attended baseline sound measurements in this area and witnessed the measurement procedures used.

2.2.4 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and have influenced the monitoring undertaken and reported in this document.

### 2.3 Existing baseline sound monitoring locations

2.3.1 In parts of this area, due to limited land access, baseline sound levels have been derived by means of extrapolation of sound levels measured at similar locations in the area.

2.3.2 Maps showing the baseline sound monitoring locations and assessment locations within this area are included in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book).

## 3 Environmental baseline

### 3.1 Existing baseline data collection methodology

- 3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000.
- 3.1.2 Over the Calvert, Steeple Claydon, Twyford and Chetwode area, a large number of baseline sound measurements have been undertaken. These have been classified as follows:
- long-term measurements – unattended measurements of several days duration;
  - medium-term measurements – attended measurements of several hours duration (generally repeated at different times of day); and
  - short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).
- 3.1.3 In this CFA a total of 48 baseline sound level measurements have been undertaken.
- 3.1.4 In Calvert, eight long-term measurements were undertaken in residential areas in close proximity to the Proposed Scheme (eastern area of Calvert). Two short-term measurements were undertaken in this area to supplement the long-term measurements.
- 3.1.5 Towards the north-east of Calvert, a single long-term measurement was carried out in a rural location where baseline sound levels were representative of those at surrounding properties.
- 3.1.6 A Nature Reserve is located towards the north-west of Calvert, which is a sensitive noise receptor. Baseline sound levels have been determined using a long-term measurement location in the middle of this reserve.
- 3.1.7 A single long-term measurement was undertaken on Portway road on the outskirts of Twyford where baseline sound levels were representative of those at surrounding properties.
- 3.1.8 In Twyford, nine long-term measurements were undertaken at residential areas throughout the town to ensure baseline sound levels were representative of those at surrounding properties. Five short-term measurements were also undertaken at locations around Twyford to supplement these long-term measurements.
- 3.1.9 Towards the east of Twyford, close to Steeple Claydon, there are a number of isolated farms in a rural setting. Three long-term measurements were undertaken at these locations where baseline sound levels would be representative of those at surrounding properties. A single short-term measurement was undertaken at a residential property on the south-western part of Steeple Claydon.



- 3.1.10 In the area around Godington, two long-term measurements were undertaken at two noise sensitive properties located in a rural setting.
- 3.1.11 In Chetwode and surrounding areas, six long-term measurements were undertaken at noise sensitive properties that are in close proximity to the Proposed Scheme. These measurements were supplemented by an attended survey.
- 3.1.12 Towards the west of Chetwode, a long-term measurement was undertaken at an isolated farm. A short-term measurement was also undertaken at this location.
- 3.1.13 In Barton Hartshorn, a long-term and a short-term measurement was undertaken at two locations in the village where baseline sound levels were representative of those at surrounding properties.

## 3.2 Existing baseline sound levels

- 3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:
  - For the operational sound assessment
    - $L_{pAeq,16hr}$  weekday daytime (07:00-23:00) sound pressure level;
    - $L_{pAeq,8hr}$  weekday night-time (23:00-07:00) sound pressure level;
    - arithmetic average of  $L_{pAFmax,5min}$  night-time sound pressure level; and
    - highest  $L_{pAFmax,5min}$  night-time sound pressure level.
  - For the construction sound assessment
    - daytime  $L_{pAeq}$  sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
    - evening/weekend  $L_{pAeq}$  sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00- 23:00; Sunday 07:00 to 23:00); and
    - night-time  $L_{pAeq}$  sound pressure level (Monday to Sunday 23:00-07:00);
- 3.2.2 These values are presented in Table 1. The data source coding included within this table includes details of how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000.

# Appendix SV-002-013

Table 1: Existing baseline sound levels

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
274086	Godington, Bicester	CS1209	44.3	41.4	44.4	75.1	44.8	43.0	41.4	1,A,i,a
274142	Chetwode, Buckingham	CS3010	43.1	31.2	35.0	50.6	43.5	41.1	30.3	3,A,i,a
274201	Newton Purcell, Buckingham	CS3012	50.2	41.7	48.7	69.0	50.8	47.7	41.3	3,A,ii,b
274255	Newton Purcell, Buckingham	CS3012	50.2	41.7	48.7	69.0	50.8	47.7	41.3	3,A,ii,b
274265	Newton Purcell, Buckingham	CS3011	50.7	43.1	49.4	69.7	51.3	48.2	43.1	1,A,ii,b
274327	Newton Purcell, Buckingham	CS3012	50.2	41.7	48.7	69.0	50.8	47.7	41.3	3,A,i,a
274535	Chetwode, Buckingham	CS5098	45.2	35.2	43.6	62.2	45.9	42.8	34.9	1,A,ii,b
274609	Chetwode, Buckingham	CS5128	52.0	38.4	42.7	62.5	52.7	43.7	36.6	1,A,ii,b
274745	Chetwode, Buckingham	CS4007	42.0	36.0	41.4	64.2	42.6	40.6	35.8	1,A,i,a
274787	Godington, Bicester	CS1209	44.3	41.4	44.4	75.1	44.8	43.0	41.4	1,A,i,a
274854	Godington, Bicester	CS1207	43.1	36.2	43.4	65.2	43.4	38.7	34.8	1,A,i,a
275094	Unnamed Road, Chetwode	CS4007	42.0	36.0	41.4	64.2	42.6	40.6	35.8	1,A,ii,b
275155	Chetwode, Buckingham	CS4007	42.0	36.0	41.4	64.2	42.6	40.6	35.8	1,A,ii,b
275187	Chetwode, Buckingham	CS5097	42.2	33.1	41.1	56.7	43.0	40.6	32.3	1,A,i,a
275245	Newton Purcell, Buckingham	CS3044	47.2	38.4	46.7	61.0	47.8	45.8	37.2	1,A,i,a

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
275251	Chetwode, Buckingham	CS5098	45.2	35.2	43.6	62.2	45.9	42.8	34.9	1,A,i,a
277651	Chetwode, Buckingham	CS5128	52.0	38.4	42.7	62.5	52.7	43.7	36.6	1,A,ii,b
277682	Barton Hartshorn, Buckingham	CS3006	46.8	39.9	42.3	62.1	49.8	40.8	42.4	3,A,ii,b
277726	Barton Hartshorn, Buckingham	CS3006	46.8	39.9	42.3	62.1	49.8	40.8	42.4	3,A,ii,b
277745	Barton Hartshorn, Buckingham	CS3006	46.8	39.9	42.3	62.1	49.8	40.8	42.4	3,A,ii,b
277995	Unnamed Road, Barton Hartshorn	CS3006	46.8	39.9	42.3	62.1	49.8	40.8	42.4	3,A,ii,b
279462	Unnamed Road, Barton Hartshorn	CS3006	46.8	39.9	42.3	62.1	49.8	40.8	42.4	3,A,ii,b
283758	Cotswolds Way, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,iii,b
284026	Kiln Close, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,iii,b
284303	Tudors Close, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,ii,b
284336	Cotswolds Way, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,ii,b
284438	Kiln Close, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,iii,b
284601	Sandstone Close, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,ii,b
284685	Sandstone Close, Calvert	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,i,a
284834	Sandy Road, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,ii,b
285186	Sandy Road, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,i,a

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/ weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
285268	Brindles Close, Calvert	CS5112	46.2	32.5	40.9	64.5	47.2	47.1	31.2	1,A,ii,b
285332	Rustics Close, Calvert	CS5112	46.2	32.5	40.9	64.5	47.2	47.1	31.2	1,A,ii,b
285447	Cotswolds Way, Calvert	CS2020	58.5	44.8	54.8	78.4	59.5	59.4	43.5	3,A,ii,b
285464	Brickhill Way, Calvert	CS5111	54.8	36.8	44.2	61.4	56.3	45.4	36.8	1,A,ii,b
285533	Cotswolds Way, Calvert	CS5112	46.2	32.5	40.9	64.5	47.2	47.1	31.2	1,A,i,a
285709	Heathers Close, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,ii,b
285731	Cotswolds Way, Calvert	CS5111	54.8	36.8	44.2	61.4	56.3	45.4	36.8	1,A,i,a
285737	Cotswolds Way, Calvert	CS5111	54.8	44.8	53.0	61.4	56.3	45.4	36.8	1,C,ii,b
285881	Brackley Lane, Calvert	CS2016	48.4	40.2	49.3	69.3	49.2	48.8	39.3	1,A,i,a
286395	Charndon, Bicester	CS0029	45.7	40.7	48.4	61.0	46.2	42.0	40.6	1,A,iii,b
286439	School Hill, Charndon	CS0043	49.7	42.2	52.1	73.0	50.3	49.8	42.5	1,A,ii,b
286452	Calvert, Buckingham	CS2108	56.4	53.0	55.7	78.5	56.3	54.9	52.9	1,A,i,a
286466	Werner Terrace, Calvert	CS5117	62.7	52.1	59.0	82.4	63.3	58.8	51.2	1,A,ii,b
286506	Werner Terrace, Calvert	CS5117	62.7	52.1	59.0	82.4	63.3	58.8	51.2	1,A,i,a
286585	Brackley Lane, Calvert	CS5111	54.8	44.8	53.0	61.4	56.3	45.4	36.8	1,C,ii,b
286608	Brackley Lane, Calvert	CS2016	48.4	40.2	49.3	69.3	49.2	48.8	39.3	1,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
286616	Brackley Lane, Calvert	CS2016	48.4	40.2	49.3	69.3	49.2	48.8	39.3	1,A,ii,b
286631	Brackley Lane, Calvert	CS2016	48.4	40.2	49.3	69.3	49.2	48.8	39.3	1,A,ii,b
286799	Calvert Road, Steeple Claydon	CS0056	45.9	39.2	50.7	75.7	45.9	39.2	39.2	1,D,ii,b
286928	Sandy Road, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,ii,b
286954	Brickhill Way, Calvert	CS0042	52.2	41.7	56.1	63.8	53.5	44.5	41.7	1,A,ii,b
287292	Church Street, Twyford	CS5118	48.5	43.0	50.0	73.5	49.6	45.1	42.7	1,A,ii,b
287430	Mill Lane, Twyford	CS4008	47.2	34.2	40.4	72.1	48.2	43.1	33.8	1,A,iii,b
287480	Preston Bissett, Buckingham	CS4008	47.2	34.2	40.4	72.1	48.2	43.1	33.8	1,A,iii,b
287554	Portway Road, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,iii,b
287936	Portway Road, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,iii,b
287959	School Lane, Twyford	CS4081	48.2	41.2	44.2	60.0	46.5	51.0	41.2	1,A,i,a
288014	School Lane, Twyford	CS5119	49.6	44.3	48.2	71.2	50.4	47.5	44.0	1,A,ii,b
288053	Main Street, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,ii,b
288099	Portway Road, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,ii,b
288112	Bicester Road, Twyford	CS5129	48.1	38.9	44.5	61.6	48.5	48.1	39.6	1,A,iii,b
288290	Mill Lane, Twyford	CS5113	50.1	38.2	41.3	67.6	50.9	48.7	38.6	1,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/ weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
288323	Church Street, Twyford	CS5119	49.6	44.3	48.2	71.2	50.4	47.5	44.0	1,A,ii,b
288381	Grange Close, Twyford	CS5109	48.3	38.6	47.4	72.6	49.1	47.0	38.1	1,A,i,a
288401	Grange Close, Twyford	CS3041	46.2	36.5	39.0	64.2	47.0	44.9	36.0	3,A,ii,b
288421	Church Street, Twyford	CS3039	42.4	31.9	35.3	57.8	42.7	42.4	31.8	3,A,ii,b
288448	Church Street, Twyford	CS3038	50.4	39.9	49.4	71.9	51.4	51.1	40.5	1,A,i,a
288469	Main Street, Twyford	CS5113	50.1	38.2	41.3	67.6	50.9	48.7	38.6	1,A,ii,b
288518	Church Street, Twyford	CS3040	47.4	42.1	44.9	68.3	49.5	45.0	40.0	3,A,ii,b
288528	Church Street, Twyford	CS0076	51.1	45.2	48.0	68.7	51.9	56.2	45.3	1,A,i,a
288619	Bicester Road, Twyford	CS5129	48.1	38.9	44.5	61.6	48.5	48.1	39.6	1,A,iii,b
288684	Preston Bissett, Buckingham	CS4008	47.2	34.2	40.4	72.1	48.2	43.1	33.8	1,A,ii,b
288715	Preston Bissett, Buckingham	CS4008	47.2	34.2	40.4	72.1	48.2	43.1	33.8	1,A,i,a
288944	Twyford, Buckingham	CS4022	47.3	37.8	44.6	67.8	47.8	45.4	37.9	1,A,iii,b
288993	Twyford Road, Twyford	CS4022	47.3	37.8	44.6	67.8	47.8	45.4	37.9	1,A,ii,b
289009	Twyford Road, Twyford	CS4022	47.3	37.8	44.6	67.8	47.8	45.4	37.9	1,A,i,a
289024	Portway Road, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,iii,b
289065	Preston Bissett, Buckingham	CS4022	47.3	37.8	44.6	67.8	47.8	45.4	37.9	1,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
289225	Steeple Claydon, Buckingham	CS0056	45.9	39.2	50.7	75.7	45.9	39.2	39.2	1,D,iii,b
289279	West Street, Steeple Claydon	CS4022	47.3	37.8	44.6	67.8	47.8	45.4	37.9	1,A,ii,b
289311	Calvert Road, Steeple Claydon	CS0056	54.9	46.3	50.7	75.7	55.5	53.3	45.4	1,A,i,a
289346	Steeple Claydon, Buckingham	CS0056	45.9	39.2	50.7	75.7	45.9	39.2	39.2	1,D,iii,b
289606	West Street, Steeple Claydon	CS0082	54.6	50.8	60.9	69.0	55.0	51.6	48.8	1,A,i,a
289621	West Street, Steeple Claydon	CS0081	49.7	42.6	50.0	64.3	50.0	45.8	41.8	1,A,i,a
289659	West Street, Steeple Claydon	CS4060	47.6	37.1	48.1	63.5	48.4	45.9	36.7	1,A,i,a
549410	Addison Road, Steeple Claydon	CS1404	48.9	41.7	55.3	59.3	49.5	46.5	41.7	4,A,i,a
549411	Vicarage Lane, Steeple Claydon	CS1404	45.9	39.2	55.3	59.3	45.9	41.5	39.2	4,D,ii,b
549412	West Street, Steeple Claydon	CS1404	48.9	41.7	55.3	59.3	49.5	46.5	41.7	4,A,iii,b
700423	Unnamed Road, Steeple Claydon	CS0056	45.9	39.2	50.7	75.7	45.9	39.2	39.2	1,D,iii,b
700424	Queen Catherine Road, Steeple Claydon	CS0081	49.7	42.6	50.0	64.3	50.0	45.8	41.8	1,A,iii,b
700425	Queen Catherine Road, Steeple Claydon	CS1401	55.1	48.1	74.9	89.3	55.4	51.2	47.2	3,C,ii,b
700426	Queen Catherine Road, Steeple Claydon	CS1401	57.7	50.6	74.9	89.3	58.0	53.8	49.8	3,B,ii,b
700427	Queen Catherine Road, Steeple Claydon	CS1404	45.9	39.2	55.3	59.3	45.9	39.2	39.2	4,D,iii,b
700428	Ashgrove, Steeple Claydon	CS1404	45.9	39.2	55.3	59.3	45.9	39.2	39.2	4,D,iii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L <sub>pAeq,16hr</sub>	Night-time L <sub>pAeq,8hr</sub>	Arithmetic average of night-time L <sub>pAFmax,5min</sub>	Highest night-time L <sub>pAFmax,5min</sub>	Daytime L <sub>pAeq</sub>	Evening/weekend L <sub>pAeq</sub>	Night-time L <sub>pAeq</sub>	
700429	West Street, Steeple Claydon	CS0081	49.7	42.6	50.0	64.3	50.0	45.8	41.8	1,A,ii,b
700430	Portway Road, Twyford	CS4106	44.8	43.4	53.4	66.5	45.4	45.5	37.7	1,A,iii,b
700431	Chetwode, Buckingham	CS5098	45.2	35.2	43.6	62.2	45.9	42.8	34.9	1,A,iii,b
710607	Unnamed Road, Godington	CS1209	44.3	41.4	44.4	75.1	44.8	43.0	41.4	1,A,ii,b
710608	Unnamed Road, Chetwode	CS4007	42.0	36.0	41.4	64.2	42.6	40.6	35.8	1,A,ii,b
711004	Committed Development C252-AV37	CS5097	42.2	33.1	41.1	56.7	43.0	40.6	32.3	1,A,ii,b



Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location
2	Short-term (linked to simultaneous long-term)
3	Short-term (using profile from non-simultaneous long-term)
4	Short-term using standard (National Noise Incidence Study <sup>3</sup> or other) 24hr profile
5	Specific validated prediction
6	Predictions from other sources (Department of Environment, Food and Rural Affairs (Defra) noise maps <sup>4</sup> , etc.)
7	Generic levels

  

Code	Corrections applied
A	Data from above source applied directly
B	Correction applied for screening
C	Correction applied for distance from source
D	Minimum level cut-off applied

  

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.

  

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate.
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.).

<sup>3</sup> Building Research Establishment, (2002), *National Noise Incidence Study*, 2000/2001.

<sup>4</sup> Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed: 26 July 2013.

### 3.3 Future baseline methodology

#### Construction

- 3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017.
- 3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.
- 3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year representative of the middle of the construction period.

#### Operation

- 3.3.4 There is potential for future baseline sound levels for operation (2026) to change when compared to the existing baseline sound levels (2012) as a result of changes in baseline sound sources.
- 3.3.5 In the vast majority of cases where change might occur it is expected that baseline sound levels will increase at assessment locations due to increases in vehicle movements on roads. It is therefore considered that the use of the 2012 baseline levels in the operational assessment will result in a worst case assessment of the impact of changes in the future baseline sound levels in the majority of locations.
- 3.3.6 Therefore for the purposes of this assessment future baseline levels have been assumed to be identical to those identified in Table 1 for 2012.
- 3.3.7 In addition, based on available road traffic information a screening exercise has been undertaken to identify any areas in which a reduction in baseline sound level might be likely. Where reductions in baseline sound level have been identified a further screening assessment has been completed to identify if these changes would be likely to materially affect the operational sound assessment.
- 3.3.8 The screening assessment has not identified any locations in this area where a decrease in future baseline (2026), compared to existing baseline (2012), is likely to materially affect the operational sound assessment.

## 4 References

Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed: 26 July 2013.